

School Characteristics and Experiences of African American, Hispanic/Latino, and Native American Youth in Rural Communities: Relation to Educational Aspirations

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The primary purpose of this study was to examine differences in the school characteristics and experiences of African American, Hispanic/Latino, and Native American youth in rural high schools as well as their relation to educational aspirations. We also investigated the characteristics and experiences of students and their families given that these are important in rural youths' preparation for the transition to adulthood. Data were from the Rural High School Aspirations Study, which collected surveys from 6,150 youth across the country attending a high school designated as rural or small town during the 2007–2008 school year. Descriptive analyses demonstrated there were differences in the school characteristics and experiences of African American, Hispanic/Latino, and Native American youth in rural areas. Regression analyses also showed variations in the predictors of educational aspirations across different racial/ethnic groups of students attending rural high schools. The results demonstrate that there are differences in the school characteristics and experiences as well as their relation to educational aspirations that may have important implications as African American, Hispanic/Latino, and Native American youth in rural high schools prepare for the transition to adulthood. The discussion includes additional findings, implications, limitations, and directions for future research.

Youth in rural areas are diverse in terms of racial, ethnic, and socioeconomic background. Although youth from various racial/ethnic backgrounds in rural areas encounter poverty, this potent experience, which significantly shapes educational trajectories, is more pronounced among African American, Hispanic/Latino, and Native American youth in rural schools and areas. For example, larger percentages of African American, Hispanic/Latino, and Native American students attend moderate- to high-poverty public schools than White and Asian students (Provasnik et al., 2007). In addition, other data demonstrate that African American youth from rural areas tend to experience severe and chronic poverty (Lichter & Johnson, 2007), and many rural counties with persistently high levels of poverty are currently experiencing substantial growth in the numbers of Hispanic/Latino families with young children (Donato, Tolbert, Nucci, & Kawano, 2007; Johnson & Strange, 2009). Finally, recent data indicate that a higher percentage of African American, Native American, and Hispanic/Latino residents in rural areas live in high-poverty counties compared to their same-racial/ethnic counterparts in urban areas (Farrigan & Parker, 2012).

Given these circumstances, educational aspirations to pursue and obtain postsecondary education may be vital to improving the health, economic, and social conditions of African American, Hispanic/Latino, and Native American youth in rural areas (Crowley & Shapiro, 1982; Moses & Cobb, 2001). Indeed, research has demonstrated a strong link between educational aspirations, educational attainment, and numerous positive adult outcomes such as employment and health status (Conti, Heckman, & Urzua, 2010; Cutler & Lleras-Muney, 2011; Ross & Wu, 1995). Aspiring to and earning a postsecondary degree may also help rural communities because college graduates provide financial return to local areas (e.g., increased tax revenues, less spending on income support programs) and volunteer more in their community (Baum, Ma, & Payea, 2013). Furthermore, parents of African American adolescents in high-poverty rural communities often want youth to leave to obtain postsecondary education and training but then return home to use the knowledge and skills they acquired to better the community (Farmer et al., 2006; Petrin, Farmer, Meece, & Byun, 2011; Petrin, Schafft, & Meece, 2014; Stack, 1996).

The transition to adulthood is the period during which youth end their secondary education, move out of childhood and adolescence, and begin to acquire new roles and experiences as young adults (Arnett, 2000). This period is marked by milestones, such as finding employment and enrolling in postsecondary education (Johnson & Reynolds, 2013). Considering the amount of time students spend in schools, rural high schools and students' experiences in them may be vital to preparing rural youth for this transition. Furthermore, having educational aspirations for—and, as a result, pursuing—postsecondary education or training may ultimately secure the future of rural communities (Demi, Coleman-Jensen, & Snyder, 2010; Meece et al., 2013; Petrin et al., 2014). Despite difficult economic conditions, many rural schools share several characteristics and provide students' experiences that could enhance their preparation for the transition (Barley & Beesley, 2007; Irvin, 2012; Irvin, Meece, Byun, Farmer, & Hutchins, 2011), such as positive teacher–student relationships and strong community involvement (Griffin, Hutchins, & Meece, 2011). Nonetheless, the combined experience of geographic isolation and poverty more frequently encountered by African American, Hispanic/Latino, and Native American youth in rural areas presents significant challenges in their transition to adulthood (Arnett, 2000; Eccles, Brown, & Templeton, 2008; Elder & Conger, 2000; Farmer et al., 2006; Zarrett & Eccles, 2006).

Yet few studies on the preparation for the transition to adulthood and, in particular, the possible role that school characteristics and experiences play in shaping this transition have focused on African American, Hispanic/Latino, and Native American youth in rural communities.

Accordingly, the primary purpose of our study was to examine school characteristics and experiences of high school youth from African American, Hispanic/Latino, and Native American backgrounds in rural communities and how they relate to their educational aspirations. We also consider the characteristics and experiences of students and their families because these are important factors in rural youths' preparation for the transition.

CONCEPTUAL FRAMEWORK

Two conceptual frameworks guided our study. First, we focused on youths' educational aspirations as the main outcome of interest. A substantial body of research suggests that educational aspirations predict postsecondary and occupational attainment in early adulthood and in subsequent years (Bandura, Barbaranelli, Caprara, & Pastorelli, 2001; Beal & Crockett, 2010; Eccles, Vida, & Barber, 2004; Schneider & Stevenson, 1999). Aspirations may be conceptualized using several different theoretical frameworks; however, the current paper uses a motivation perspective to examine the student aspirations themselves. From this perspective, aspirations are cognitive representations of a goal that help direct and organize behaviors (Bandura, 1986) and can include hopes, desires, ambitions, and inspirations. Research demonstrates that students with a clear sense of purpose and direction are likely to make adaptive transitions into adulthood (Eccles et al., 2008; Elder & Conger, 2000).

Second, our study was guided by ecological developmental theory, which we drew upon to identify factors that may relate to rural youths' educational aspirations (Bronfenbrenner & Evans, 2000; Cairns, 2000; Magnusson & Cairns, 1996). There are several ecological dimensions of rural life such as geographic location, population size and density, community ties, traditionalism, and land use that constitute a macro-context for the school, family, and student microsystems (Crockett, Shanahan, & Jackson-Newsom, 2000). In part, we explored the role of the rural setting in youth development through these microsystems. Furthermore, although we conceptually grouped many of our measures within these microsystems, several also closely reflect the broader rural context or perhaps the influence of rural context on these microsystems. For example, free and reduced-price lunch, school location, and college proximity measures capture the broader rural context related to student poverty, geographic isolation, and population density. Further, family economic hardship and students' perceptions of local economic opportunities encompass financial and occupational features of the rural setting that youth experience as well.

From an ecological perspective, schools are conceived of as multilayered, embedded systems. These systems are hierarchically organized from the proximal influences of learning activities within the classroom to the more distal influences of school organization and educational policies at the state or national level (Bronfenbrenner, 1976; Eccles & Roeser, 2010; Roeser, Urdu, & Stephens, 2009). This perspective of schooling emphasizes the importance of both *school characteristics* (e.g., location, poverty) and *school experiences* that, in the context of the current study, may promote or constrain educational aspirations and preparation for the transition to adulthood. Specifically, school experiences include student experiences or outcomes of educational practices and policies (e.g., involvement in college preparation program, grade retention, achievement, teachers' educational expectations) as well as student attitudes and beliefs related to their school experience (e.g., school valuing and academic self-concept).

According to ecological developmental theory (Bronfenbrenner & Evans, 2000; Cairns, 2000; Magnusson & Cairns, 1996), factors in other microsystems beyond the school environment could affect rural youth's preparation and plans for the transition. Moreover, family characteristics and experiences may be more predictive of transition outcomes for rural youth. For example, research has shown that parental educational expectations were more critical for college enrollment and degree completion for rural youth than for urban and/or suburban youth (Byun, Irvin, & Meece, 2012; Byun, Meece, & Irvin, 2012), perhaps due to the close interpersonal connections often apparent in rural families.

Finally, ecological developmental theory contends that student characteristics and experiences are also important (Bronfenbrenner & Evans, 2000; Cairns, 2000; Magnusson & Cairns, 1996). For example, gender differences in educational aspirations are evident among rural youth (Meece, Askew, Agger, Hutchins, & Byun, 2014; Meece et al., 2013). Moreover, perceived economic opportunities and residential aspirations are predictive of educational and vocational aspirations (Howley, 2006; Johnson, Elder, & Stern, 2005; Petrin et al., 2011; Petrin et al., 2014). Below, we provide more background on aspects of the school, family, and student microsystems that may be important to rural youths' educational aspirations and preparation for the transition to adulthood.

SCHOOL CHARACTERISTICS AND EXPERIENCES

The current study examined several school characteristics, including racial/ethnic subgroup percentages of students receiving free or reduced-price lunch and students from African American, Hispanic/Latino, and Native American backgrounds. Research with nationally representative samples of high school youth indicates that students from low-income families and racial/ethnic minority backgrounds, on average, demonstrate lower academic achievement and school completion levels than their higher income, White peers (Bryk & Thum, 1989; Rumberger & Thomas, 2000). Although the percentage of youth eligible for a free or reduced-price lunch in rural schools (38%) is slightly lower than the national average (41%; Provasnik et al., 2007), the largest populations of students eligible for free or reduced-price lunch in rural schools are from racial/ethnic minority backgrounds. Specifically, African American (60%), Hispanic/Latino (54%), and Native American (69%) students in rural areas are more likely than their White peers to attend schools where more than 50% of students qualify for free or reduced-price lunch (21%; Provasnik et al., 2007).

Our study also employed location and proximity to postsecondary institutions as additional school variables. School location and college proximity are potentially relevant because a postsecondary education may not be needed for many jobs in isolated rural communities (e.g., agriculture, manufacturing, resource extraction, or service; Haller & Virkler, 1993). Furthermore, pursuing postsecondary education often requires rural youth to move away from their homes. Consequently, they may want to maintain connections to family and community over furthering their education, especially when attending a postsecondary institution may require moving away (Elder, King, & Conger, 1996; Hektner, 1995; Howley, 2006; Rojewski, 1999).

The school experiences we examined included involvement in a college preparation program, grade retention, academic achievement, school valuing, academic self-concept, and teachers' educational expectations. Many studies have demonstrated that completing more advanced courses in a college preparation program is a robust predictor of higher academic achievement, even after

controlling for race and socioeconomic status (Lee & Ready, 2009). Furthermore, some studies suggest the relationship may be causal (Attewell & Domina, 2008; Byun, Irvin, & Bell, 2015; Leow, Marcus, Zanutto, & Boruch, 2004; Long, Conger, & Iatarola, 2012). Taking advanced courses may be especially beneficial for academic outcomes (e.g., test performance, college enrollment) among rural youth (Irvin, Byun, Smiley, & Hutchins, 2014), but relations between advanced coursework and academic outcomes vary across race/ethnicity (Attewell & Domina, 2008; Byun et al., 2014; Long et al., 2012). In addition, research with nationally representative data demonstrates that grade retention, a strong predictor of low academic achievement and aspirations, is disproportionately more common among African American and Hispanic/Latino youth (Hattie, 2009; Kao & Tienda, 1998). This is particularly meaningful when considering that numerous studies suggest that academic achievement (i.e., math and reading test performance) correlates positively with students' educational aspirations (Kao & Tienda, 1998; Trusty, 2000).

Because students' competency and value beliefs are robust predictors of educational and vocational plans as well as attainment, we chose to examine both school valuing and academic self-concept (Bandura et al., 2001; Eccles, Wigfield, & Schiefele, 1998; Valentine, DuBois, & Cooper, 2004). School valuing involves students' beliefs that what they are learning in school is valuable and useful toward achieving their goals (Hardré, Sullivan, & Crowson, 2009). Academic self-concept refers to students' perceived competence and their ability to learn (Marsh & Craven, 1997). Although most research on academic self-concept and school valuing has involved youth from urban or suburban communities, some recent findings demonstrate that these factors predict educational achievement and aspirations among rural high school youth (Demi et al., 2010; Hardré & Hennessey, 2010; Hardré et al., 2009; Irvin et al., 2011). Teachers' educational expectations capture teachers' beliefs about students' abilities, and these expectations are strong predictors of educational attainment; research suggests that teachers tend to hold lower expectations for minority and low-income youth, and teachers behave differently with students for whom they have lower expectations (Hattie, 2009; Marzano, 2010; McKown & Weinstein, 2008; Speybroeck et al., 2012). In sum, we investigated several school characteristics (i.e., proportion of students receiving free lunch and from racial/ethnic minority backgrounds, geographic location, college proximity) and experiences (i.e., college preparation program, grade retention, academic achievement, school valuing, academic self-concept, and teachers' educational expectations) that prior research suggests may be related to the educational aspirations of rural youth.

FAMILY CHARACTERISTICS AND EXPERIENCES

We also examined several family characteristics within this important but multifaceted microsystem that may be influential in rural youths' preparation for the transition to postsecondary education. Students whose parents have more education have reported higher educational aspirations and achievement (Byun, Meece, Irvin, & Hutchins, 2012; Wilson & Wilson, 1992). However, postsecondary educational attainment is lower among rural parents, only 20% of whom have bachelor's degrees, than suburban and urban parents (Provasnik et al., 2007), among whom 34% and 36% have earned bachelor's degrees, respectively (Byun, Meece, & Irvin, 2012). Although higher parental educational expectations predict college enrollment and degree attainment among rural youth (Byun, Irvin, & Meece, 2012; Byun, Meece, & Irvin, 2012), rural parents often

have lower educational expectations of their children, which may stem from rural parents' lower educational attainment (Byun, Meece, & Irvin, 2012; Roscigno & Crowley, 2001; Roscigno, Tomaskovic-Devey, & Crowley, 2006).

In terms of family structure, youth in two-parent families have higher educational aspirations and attainment than youth from single parent or other nontraditional families (Pagani et al., 2008), and studies of rural youth have obtained similar findings (Byun, Irvin, & Meece, 2012; Byun, Meece, & Irvin, 2012). In addition, youth who have more siblings and parents with less education have lower educational achievement and expectations (Downey, 2001). Studies examining the link between economic hardship and academic achievement suggest economic hardship may lessen parents' efficacy and involvement (Conger, Rueter, & Conger, 2000; Elder, Eccles, Ardel, & Lord, 1995) and, in turn, youths' educational aspirations (Eccles & Harold, 1996; Kim, Hong, & Rowe, 2000).

STUDENT CHARACTERISTICS AND EXPERIENCES

Finally, we examined several student characteristics and experiences including gender, grade level, residential aspirations, and perceived local economic opportunities. Female youth in rural areas tend to have higher educational aspirations, higher occupational aspirations, and more aligned aspirations (i.e., educational goals consistent with occupational goals) than male youth (Chenoweth & Galliher, 2004; Elder & Conger, 2000; Meece et al., 2014; Meece et al., 2013). A higher grade level correlates positively with achievement but negatively with educational aspirations among rural youth (Irvin et al., 2011), with the latter perhaps reflecting the frequently observed decline in school motivation and engagement across adolescence regardless of race/ethnicity, gender, or rurality (Anderman, 2012; Gottfried, Fleming, & Gottfried, 2001). Likewise, another important factor is residential aspiration—that is, students' assessment of whether they perceive their local area as the place they want to live in the future—because youth in rural areas may place more value on their connections to place, people, and rural lifestyle than material success and related goals (e.g., go to college, obtain advanced degree, become wealthy; Elder & Conger, 2000; Howley, 2006; Petrin et al., 2011). Therefore, these residential aspirations are predictive of rural youths' educational aspirations (Petrin et al., 2014). Finally, we included local economic opportunity as a student experience because it was a subjective measure of students' perceptions of the future economic opportunities for themselves in their communities. (See Van Gundy et al., in this issue, for a related discussion of students' perceptions of local job opportunities).

PURPOSE AND AIMS OF THE CURRENT STUDY

The primary purpose of this study was to investigate differences in various school characteristics and experiences and their relationship with the educational aspirations of rural high school youth from varying racial/ethnic backgrounds as they prepare for their futures. Using an ecological developmental framework, we also examined other aspects that may be impacted by the rural

setting and affect the educational aspirations of rural youth, specifically family and student characteristics and experiences. We pursued five specific research aims (RA):

1. Examine between-group differences in the educational aspirations of youth from different racial/ethnic backgrounds in rural communities.
2. Examine between-group differences in the family characteristics and experiences of youth from different racial/ethnic backgrounds in rural communities.
3. Examine between-group differences in student characteristics and experiences of youth from different racial/ethnic backgrounds in rural communities.
4. Examine between-group differences in school characteristics and experiences of youth from different racial/ethnic backgrounds in rural communities.
5. Examine within- and between-group differences in the relation of family, student, and school characteristics and experiences to the educational aspirations of youth from different racial/ethnic backgrounds in rural communities.

METHODS

Participants

We used data from the Rural High School Aspirations Study, a national investigation of students' school adjustment and postsecondary aspirations in rural high schools across 34 U.S. states. Approximately 8,700 students in Grades 9–12 were recruited from 73 schools. For the present investigation, we restricted analyses to students for whom teachers had completed surveys so that we could obtain information about teachers' educational expectations for the students. In addition, we excluded students with a multi-racial/ethnic background due to the lack of literature on and clear characteristic of this group (about 12% of total sample) and excluded Asian American students due to a small sample size (less than 1% of total sample). Finally, we excluded students who indicated that they did not know how far in school they most wanted to go (about 7% of the total sample). This yielded 6,150 total students in our analytic sample. The racial/ethnic background of the sample was 76.6% White, 11.4% Hispanic/Latino, 7.8% African American, and 4.2% Native American. Of these students, 26.6%, 30.0%, 25.5%, and 21.9% were ninth, tenth, eleventh, and twelfth graders, respectively.

Measures

Educational Aspirations

Our dependent variable was participants' educational aspirations. To derive this measure, the survey asked students to rate how far in school they would most like to go ("less than high school" to "M.D., Ph.D., or other advanced degree," or "don't know"). Responses were coded to provide a continuous measure of the average years of schooling it would take to reach their educational aspirations.

School Characteristics and Experiences

We obtained school characteristics data from the National Center for Education Statistics Common Core of Data and included the following: percent of students eligible for free lunch; percent of students from African American, Hispanic/Latino, and Native American backgrounds; college proximity; and school location. College proximity was the distance (in miles) to the closest college or university. There were several categories to classify the location of participating students' school. *Rural fringe* was a rural territory less than or equal to 5 miles from an urbanized area or less than or equal to 2.5 miles from an urban cluster. *Rural distant* was a rural territory more than 5 miles but less than or equal to 25 miles from an urbanized area or more than 2.5 miles but less than or equal to 10 miles from an urban cluster. *Rural remote* was a rural territory more than 25 miles from an urbanized area and more than 10 miles from an urban cluster. *Town fringe* was a territory inside an urban cluster less than or equal to 10 miles from an urbanized area. *Town distant* was a territory inside an urban cluster more than 10 miles but less than or equal to 35 miles from an urbanized area. *Town remote* was a territory inside an urban cluster more than 35 miles from an urbanized area.¹

The measures of school experiences included self-reported enrollment in a college preparation program, grade retention, academic achievement, academic self-concept, and school valuing, as well as teacher-reported educational expectations for each participating student. Academic program was captured by asking students to indicate whether they were enrolled in a *college preparation program* (value = 1) or a general high school, vocational/technical/business, agricultural education, other specialized, alternative/stay-in-school/dropout prevention program, or don't know (value = 0). Grade retention was measured by asking students whether they had ever been held back a grade (value = 1) or not (value = 0). Academic achievement was measured by asking students to indicate which "best describes your grades in school this year?" Response options ranged from 1 = *below Ds* to 8 = *mostly A's*. Academic self-concept was measured by using the average of five items asking students to self-report how good (1 = *not good at all* to 7 = *very good*) they felt they were in math, science, English/language arts, social studies, and other classes (Jodl, Michael, Malanchuk, Eccles, & Sameroff, 2001). Confirmatory factor analyses (CFA) indicated these items formed a single factor ($\alpha = .73$). School valuing assessed participating students' value for school and whether they viewed it as a pathway for later opportunities in life (1 = *strongly disagree* to 6 = *strongly agree*); items were adapted from previous measures created by Jodl et al. (2001); Lapan, Gysbers, and Petroski (2001); and Voelkl (1996), and CFA identified a 4-item measure capturing students' positive value of school (e.g., "most of what I learn in school will be useful when I get a job," "the kind of education I'm getting here will help me later on," and "dropping out of school would be a huge mistake for me"; $\alpha = .83$). We obtained the averages across the items forming the academic self-concept and school-valuing measures; higher scores indicated higher academic self-concept or school valuing.

¹Our study includes towns in part because the sample was originally identified under the previous Census locale system that included towns in locale code categories that most considered rural (i.e., 6, 7, and 8). While collecting our data the newer locale codes were introduced. We then began to use those because the newer locale codes provide more descriptive and distinct categories of rural but also more clearly differentiate towns. In addition, many other rural researchers and organizations (e.g., Rural School and Community Trust) also include towns in their definitions of rural.

Family Characteristics and Experiences

Participating students self-reported the following measures of family characteristics and experiences: parental education, family structure (e.g., two parent), family size (i.e., number of siblings), economic hardship, and parental educational aspirations. The parental education question asked the highest level of education mother/female guardian and father/male guardian had received in years (e.g., 11 = less than high school graduation; 22 = has a Ph.D., M.D., or other advanced degree). The average of these two items was obtained, with a higher score indicating that students' parents had more education. Economic hardship was assessed using three items adapted from multiple sources (Conger, Conger, Matthews, & Elder, 1999; Wadsworth & Compas, 2002) and asking how often (1 = *never* to 5 = *all the time*) participants' family had difficulties paying bills, enough money to buy important items (reversed coded), and difficulty buying things the family wants or needs. CFA indicated these items formed a single factor ($\alpha = .88$). We calculated the average across items, with a higher score indicating more economic hardship. Our measure of parental educational aspirations asked students how disappointed their mother/female guardian and father/male guardian would be if he/she did not graduate from college (1 = *not at all disappointed* to 6 = *very disappointed*). We averaged the responses from these two items, and a higher value indicated that parental educational aspirations for college completion were higher.

Student Characteristics and Experiences

Students self-reported the following characteristics: race/ethnicity, gender, and grade level (9th, 10th, 11th, or 12th). Student race/ethnicity was asked using an item with racial/ethnic categories (e.g., African American, Hispanic/Latino) employed in the surveys of other national data sets and the federal government (e.g., Census). Student experiences included local economic opportunities as well as residential aspirations. Local economic opportunity was measured by asking students to what degree they agreed with the following three items: "It is easy to get a good paying job around here," "A lot of people get benefits. .. for most jobs in this area," and "There are good jobs in the area for people like me" (1 = *strongly disagree* to 6 = *strongly agree*; $\alpha = .67$). Residential aspirations were assessed by asking participating students where they would like to live at age 30 ("home state, another state, or have not decided").

Analytic Strategies

We obtained descriptive statistics to examine differences in educational aspirations and in school, family, and student characteristics and experiences by participants' race/ethnicity to address RA1 through RA4. To address RA5, we then conducted ordinary least squares (OLS) simultaneous regression analysis to examine the relationship of family, student, and school characteristics and experiences to participants' educational aspirations. We also conducted a z test to examine whether the relationship between these family, student, and school characteristics and experiences and students' educational aspirations varied by race/ethnicity. By using this approach, we attended to inter- and intra-group variability to more thoroughly understand the variability of findings across the racial/ethnic diversity of rural youth within our analyses and results discussed later.

To address missing data, we employed multiple imputation with STATA (Royston, 2004). Specifically, we generated five data sets with imputed values and then averaged the coefficients and standard errors using Rubin's (1987) rule (see the appendix for summary of amount of missing data). To account for the nested nature of the data (i.e., students within schools), we used robust standard errors (Rogers, 1993).²

RESULTS

RA1: Between-Group Differences in Educational Aspirations

As is apparent in Table 1, descriptive analyses indicated that all students, on average, desired to continue their education beyond high school. Additionally, White, African American, and Hispanic/Latino youth in rural areas had comparable levels of educational aspirations. However, Native American youth ($M = 16.58$) had significantly lower educational aspirations than African American youth ($M = 17.25$).

RA2: Between-Group Differences in Family Characteristics and Experiences

Differences in family characteristics and experiences varied and some of these family factors may be particularly informative for rural schools as they prepare youth for their future. There were no significant differences in parental educational aspirations by participants' race/ethnicity. Specifically, White, African American, Hispanic/Latino, and Native American rural youth reported that their parents had comparable educational aspirations for them. However, Hispanic/Latino and Native American youth indicated that their parents had significantly less education ($M = 12.71$ and 13.17 , respectively) and their families experienced significantly more economic hardship ($M = 1.90$ and 1.96 , respectively) than White and African American youth.

RA3: Between-Group Differences in Student Characteristics and Experiences

There were no significant differences in participants' gender, grade level, and perceived local economic opportunities. However, there were differences in students' residential aspirations and, in particular, perceptions that their home state is where they would like to live in the future. African American youth were more evenly split than other racial/ethnic groups in their desire to live either in their home state or in another state; as a result, they were significantly more likely (41%) to want to live in another state than were White and Native American youth (27% and 27%, respectively). In addition, African American youth were significantly less often undecided (21%)

²We used a hierarchical linear modeling (HLM) approach (Raudenbush & Bryk, 2002) to assess within- and between-school variations in educational aspirations among rural youth. We found 97% of the total variance was attributable to the student level, while only 3% was attributable to the school level (results not shown but available upon request from the authors). This suggested that the use of HLM offers little advantage over OLS regression. Thus, we report the results from OLS regression with robust standard errors.

TABLE 1
Descriptive Statistics and Differences by Race/Ethnicity

	White		African American		Hispanic/Latino		Native American	
	M or %	SE	M or %	SE	M or %	SE	M or %	SE
Dependent variable								
Educational aspirations	16.88	0.04	17.25 ^d	0.13	16.87	0.10	16.58 ^b	0.18
Independent variables								
<i>Family characteristics and experiences</i>								
Parental educational aspirations	4.65	0.02	4.74	0.08	4.63	0.06	4.61	0.10
Parental education	13.83 ^{c, d}	0.04	13.52 ^c	0.14	12.71 ^{a, b}	0.11	13.17 ^a	0.16
Two-parent family	0.62 ^{b, d}	—	0.28 ^{a, c, d}	—	0.63 ^{b, d}	—	0.49 ^{a, b, c}	—
Number of siblings	2.67 ^{b, c, d}	0.02	3.61 ^{a, b, c, d}	0.09	3.12 ^{a, b}	0.06	3.16 ^{a, b}	0.12
Economic hardship ^a	1.74 ^{c, d}	0.01	1.80 ^d	0.05	1.90 ^e	0.04	1.96 ^{a, b}	0.07
<i>Student characteristics and experiences</i>								
Female	0.53	—	0.50	—	0.54	—	0.47	—
Grade level								
9th	0.26	—	0.29	—	0.29	—	0.28	—
10th	0.27	—	0.28	—	0.25	—	0.30	—
11th	0.26	—	0.27	—	0.25	—	0.24	—
12th	0.21	—	0.16	—	0.22	—	0.18	—
Perception local economic opportunity	2.95	0.02	2.99	0.07	2.86	0.04	3.03	0.07
<i>Residential aspirations</i>								
Home state	0.39 ^c	—	0.37	—	0.28 ^{a, d}	—	0.43 ^c	—
Another state	0.27 ^{b, c}	—	0.41 ^{a, d}	—	0.40 ^a	—	0.27 ^b	—
Have not thought or decided	0.34 ^b	—	0.21 ^{a, c, d}	—	0.33 ^b	—	0.30 ^b	—

(Continued on next page)

TABLE 1
Descriptive Statistics and Differences by Race/Ethnicity (Continued)

	White		African American		Hispanic/Latino		Native American	
	<i>M</i>	<i>or</i> %	<i>M</i>	<i>or</i> %	<i>M</i>	<i>or</i> %	<i>M</i>	<i>or</i> %
<i>School characteristics and experiences</i>								
% students receiving free lunch	0.33 ^{b, c, d}	0.00	0.51 ^a	0.01	0.41 ^a	0.00	0.47 ^a	0.01
% African American students	0.04 ^{b, c, d}	0.00	0.50 ^{a, c, d}	0.01	0.02 ^{a, b}	0.00	0.01 ^{a, b}	0.00
% Hispanic/Latino students	0.06 ^{b, c, d}	0.00	0.03 ^{a, c}	0.00	0.52 ^{a, b, d}	0.01	0.03 ^{a, c}	0.01
% Native American students	0.03 ^{b, c, d}	0.00	0.01 ^{a, d}	0.00	0.01 ^{a, d}	0.00	0.46 ^{a, b, c}	0.02
School location								
Town, fringe or distant	0.09 ^{b, d}	—	0.01 ^{a, c}	—	0.06 ^b	—	0.01 ^a	—
Town, remote	0.10 ^{b, d}	—	0.03 ^{a, c}	—	0.24 ^{b, d}	—	0.04 ^{a, c}	—
Rural, fringe or distant	0.34 ^b	—	0.82 ^{a, c}	—	0.23 ^b	—	0.56	—
Rural, remote	0.47 ^b	—	0.14 ^a	—	0.47	—	0.39	—
College proximity	39.48	0.46	20.82	1.17	32.72	1.05	34.28	1.66
College preparation program	0.20 ^{c, d}	—	0.22 ^c	—	0.08 ^{a, b}	—	0.12 ^a	—
Retention	0.14 ^{b, d}	—	0.30 ^{a, c}	—	0.17 ^b	—	0.22 ^a	—
Achievement	6.40 ^{b, c, d}	0.02	5.71 ^a	0.07	5.94 ^a	0.06	6.02 ^a	0.10
School valuing	4.29 ^{b, c}	0.02	4.76 ^{a, c, d}	0.05	4.47 ^{a, b, d}	0.04	4.20 ^{b, c}	0.07
Academic self-concept	5.08 ^c	0.02	5.08 ^c	0.06	4.80 ^{a, b}	0.04	4.95	0.08
Teacher's educational expectations	14.74 ^{b, c, d}	0.03	14.02 ^a	0.11	14.10 ^a	0.08	13.88 ^a	0.13
<i>N</i>	4712		477		704		257	

^aSignificantly different from White students at $p < .05$ (two-tailed tests).

^bSignificantly different from African American students at $p < .05$ (two-tailed tests).

^cSignificantly different from Hispanic/Latino students at $p < .05$ (two-tailed tests).

^dSignificantly different from Native American students at $p < .05$ (two-tailed tests).

about where they wanted to live than White, Hispanic/Latino, and Native American youth (34%, 33%, and 30%, respectively). Hispanic/Latino youth (40%) wanted significantly more often to live in another state than White youth, and Hispanic/Latino youth (33%) had significantly less often thought about or decided where they wanted to live than African American youth. Finally, Native American youth had the opposite pattern of residential aspirations. That is, Native American youth (27%) wanted significantly more often to live in their home state than Hispanic/Latino youth, and Native American youth (30%) wanted significantly less often to live in another state than African American youth.

RA4: Between-Group Differences in School Characteristics and Experiences

There were several differences in school characteristics that may be important to the transition of African American, Hispanic/Latino, and Native American youth in rural areas. In particular, African American (51%), Hispanic/Latino (41%), and Native American (47%) youth attended rural schools with significantly higher proportions of students receiving free lunch than White youth (33%). In addition, African American (50%), Hispanic/Latino (52%), and Native American (56%) youth attended rural schools with significantly higher proportions of students from the same racial/ethnic background.

In terms of school location, White youth more often attended schools in remote rural areas (47%), whereas African American youth more often attended schools in a rural fringe or distant area (82%). Furthermore, Hispanic/Latino youth more often attended school in a remote rural area (47%) or town (24%); their likelihood of living in a town was significantly different from and higher than African American (3%) and Native American (4%) youth. Native American youth most often attended school in a rural fringe or distant area (56%), followed by a rural remote area (39%). However, there were no differences across racial/ethnic groups in college proximity.

Perhaps more important, there were differences in academic experiences that may be vital to the postsecondary transitions of African American, Hispanic/Latino, and Native American youth in rural communities. First, Hispanic/Latino (8%) and Native American (12%) youth were significantly less often enrolled in a college preparation program than White (20%) or African American (22%) youth. Second, African American (30%) and Native American (22%) youth significantly more often experienced grade retention than White youth (14%). Finally, African American, Hispanic/Latino, and Native American youth ($M = 5.71, 5.94$, and 6.02 , respectively) demonstrated significantly lower achievement than White youth ($M = 6.40$).

There were also important differences in other school experiences. First, African American students had the highest school value ($M = 4.76$), which was significantly higher than the school value of all other students. Hispanic/Latino youth had the next highest school value ($M = 4.47$), which was also significantly higher than the school value of White and Native American youth ($M = 4.29$ and 4.20 , respectively). In contrast, Native American youth had the lowest school value; it was significantly lower than the school value of African American and Hispanic/Latino youth.

There were also significant differences in rural youths' own ability beliefs and the ability beliefs teachers held about them. African American and White youth had the highest levels of academic self-concept ($M = 5.08$), whereas Hispanic/Latino youth had the lowest academic self-concept ($M = 4.80$). Furthermore, the average academic self-concept of Hispanic/Latino

youth was significantly lower than the academic self-concept of White and African American youth. In addition, teachers' educational expectations were, in general, significantly lower for African American, Hispanic/Latino, and Native American youth ($M = 14.02, 14.10, \text{ and } 13.88$, respectively) than White youth ($M = 14.74$).

RA5: Within- and Between-Group Differences in the Relationship of Family, Student, and School Characteristics and Experiences to Educational Aspirations

Table 2 provides results from regression analyses examining the relationship of family, student, and school characteristics and experiences to educational aspirations. Perhaps it is most notable that, among the measures of family characteristics and experiences, parental educational aspirations had the strongest positive relationship to rural youths' educational aspirations. Furthermore, there were no differences in the direction or magnitude of that relationship across racial/ethnic backgrounds of rural youth.

Turning to student characteristics and experiences, results indicated females had higher educational aspirations than males among White, African American, and Native American youth. Gender was not a significant predictor of educational aspirations for Hispanic/Latino youth (i.e., within group). However, between-group analyses demonstrated that the relationship between gender and educational aspirations for Hispanic/Latino youth was not significantly different from other racial/ethnic groups. Positive perceptions of local economic opportunities were related to lower educational aspirations among White and African American youth only, but these relationships were not significantly different from the relationships between perceptions of local economic opportunities and educational aspirations of Hispanic/Latino or Native American youth. Residential aspirations were a more robust predictor of educational aspirations. Specifically, the desire to live in another state was consistently related to higher educational aspirations for all racial/ethnic groups. Similarly, having not considered or decided where one wanted to live generally correlated with higher educational aspirations.

Although there were important differences in school characteristics, the regression analysis demonstrated school characteristics were largely not predictive of educational aspirations. However, several of the school experiences were related. First, involvement in a college preparation program was a strong predictor of the educational aspirations of White, African American, and Hispanic/Latino youth, but not Native American youth. Furthermore, involvement in a college preparation program had a significantly stronger relationship to the educational aspirations of Hispanic/Latino youth than White and Native American youth. Grade retention was inversely related to educational aspirations for Hispanic/Latino youth only, but this was not significantly different from other youth. Academic achievement had a significant positive relationship to educational aspirations for White and Hispanic/Latino students only, but this was not significantly different from African American and Native American youth.

In addition, school valuing had a significant positive relationship to educational aspirations for White, African American, and Hispanic/Latino students but not Native American students. In terms of between-group differences, the relationship of school valuing to the educational aspirations of White and Hispanic/Latino students was also significantly different than that for Native American students. In contrast, results indicated ability beliefs were similarly predictive for rural youth. That is, academic self-concept had a significant positive relationship to educational

TABLE 2
Racial/Ethnic Differences in Predictors of Educational Aspirations of Rural Youth

Variable	White		African American		Hispanic/Latino		Native American	
	<i>B</i>	<i>SE</i>	<i>B</i>	<i>SE</i>	<i>B</i>	<i>SE</i>	<i>B</i>	<i>SE</i>
<i>Family characteristics and experiences</i>								
Parental educational aspirations	0.36***	0.03	0.31**	0.08	0.29***	0.06	0.30*	0.12
Parental education	0.05*** ^d	0.01	0.08* ^d	0.04	0.06 ^d	0.04	-0.10 ^{a, b, c}	0.07
Two-parent family	-0.09 ^c	0.07	0.26 ^c	0.34	-0.53 ^{a, b}	0.20	-0.07	0.30
Number of siblings	0.03	0.02	-0.05	0.05	-0.06	0.06	0.08	0.10
Economic hardship	-0.01	0.04	-0.14	0.10	0.05	0.09	-0.22	0.17
<i>Student characteristics and experiences</i>								
Female	0.45***	0.08	0.58**	0.16	0.26	0.17	0.59*	0.25
Grade level (9th omitted)								
10th	-0.15 ^b	0.09	0.82* ^{a, c}	0.36	-0.66 ^b	0.31	0.00	0.35
11th	-0.27***	0.09	-0.09	0.25	-0.48*	0.22	-0.60	0.59
12th	-0.42***	0.11	0.04	0.31	-0.57*	0.29	-0.36	0.49
Positive perception of economic opportunity in home community	-0.17	0.03	-0.28*	0.11	-0.05	0.07	-0.21	0.12
<i>Residential aspirations (home state omitted)</i>								
Another state	0.52***	0.10	0.49*	0.20	0.53*	0.23	1.32**	0.46
Have not thought or decided	0.39*** ^d	0.09	0.32 ^d	0.22	0.43**	0.15	1.37* ^{a, b}	0.47
<i>School characteristics and experiences</i>								
%students receiving free lunch	-0.13	0.31	0.14	1.67	-0.66	1.16	0.71	1.64
%African American students	0.56	0.58	-0.37	0.69	-1.16	1.78	-2.81	1.85
%Hispanic/Latino students	-0.11	0.25	-1.92	0.97	-0.16	0.51	0.22	1.48
%Native American students	0.14 ^b	0.49	4.81** ^{a, d}	1.30	2.96	1.93	-0.14 ^b	0.64

(Continued on next page)

TABLE 2
Racial/Ethnic Differences in Predictors of Educational Aspirations of Rural Youth (Continued)

Variable	White		African American		Hispanic/Latino		Native American	
	B	SE	B	SE	B	SE	B	SE
School location (rural, remote omitted)								
Town, fringe or distant	-0.33*	0.13	-0.65	0.51	0.08	0.24	-0.99	1.59
Town, remote	0.22* ^b	0.11	1.90** ^{a, c}	0.57	0.05 ^b	0.38	0.68	0.77
Rural, fringe or distant	0.16	0.10	0.19	0.50	-0.22	0.27	0.76*	0.37
College proximity	0.00*	0.00	0.00	0.01	-0.01	0.00	0.00	0.01
College preparation program	0.50** ^c	0.12	0.72**	0.25	1.37** ^{a, d}	0.25	-0.05 ^c	0.47
Retention	-0.19	0.11	0.15	0.30	-0.54*	0.25	-0.46	0.37
Achievement	0.17***	0.03	0.15	0.08	0.26***	0.07	0.17	0.21
School valuing	0.37** ^d	0.03	0.32*	0.13	0.44** ^d	0.09	0.07 ^{a, c}	0.13
Academic self-concept	0.30***	0.05	0.32*	0.12	*	0.11	0.54**	0.17
Teacher's educational expectations	0.22***	0.02	0.24***	0.06	0.15***	0.04	0.23*	0.10
Intercept	7.33***	0.42	7.53***	1.52	9.08***	0.82	8.86***	2.09
R-squared	0.36		0.31		0.29		0.34	
N	4,712		477		704		257	

*** $p < .001$, ** $p < .01$, * $p < .05$ (two-tailed tests)

^aSignificantly different from White students at $p < .05$ (two-tailed tests).

^bSignificantly different from African American students at $p < .05$ (two-tailed tests).

^cSignificantly different from Hispanic/Latino students at $p < .05$ (two-tailed tests).

^dSignificantly different from Native American students at $p < .05$ (two-tailed tests).

aspirations comparable in magnitude for White, African American, Hispanic/Latino, and Native American students. Likewise, teachers' beliefs about students' ability were equally predictive for rural youth. Specifically, teachers' educational expectations had a similarly significant positive relation to educational aspirations for White, African American, Hispanic/Latino, and Native American students.

DISCUSSION

Broadly, our results are significant because, in general, few studies on the preparation for the transition to adulthood have involved rural youth, especially youth from African American, Hispanic/Latino, and Native American backgrounds. Additionally, this research on rural schools and rural students' school-related experiences has mostly been descriptive and rarely applied to an ecological framework. Moreover, research that distinguishes between youth from various racial/ethnic groups in rural settings—rather than lumping all students of color into a single group—has been lacking. Importantly, our findings indicate there are several key differences in the school characteristics and experiences of rural students of color. Furthermore, the relation of school characteristics and experiences to educational aspirations appears to be complex; while sometimes this relationship varies across diverse racial/ethnic backgrounds, sometimes it is quite similar. Thus, our results have important implications for supporting students in their postsecondary transitions.

The primary purpose of our study was to examine the school characteristics and experiences of African American, Hispanic/Latino, and Native American youth in rural areas, including differences in these and their relation to students' educational aspirations. To begin our discussion, we first consider our results on between-group differences in the educational aspirations of participating students. Consistent with the ecological developmental perspective guiding our study, we also examine results related to a key aspect of the family microsystem, parental educational aspirations. We then discuss the findings that, in our view, are most important to our main focus—school characteristics and experiences.

Educational Aspirations of Rural Students and Parents

Results from analyses of between-group differences in the educational aspirations of students from various racial/ethnic backgrounds indicated that White, African American, and Hispanic/Latino students in rural areas had comparably high levels of educational aspirations. Although Native American youth in rural areas had significantly lower educational aspirations than African American youth, Native American youth also had comparably high levels of educational aspirations to White and Hispanic/Latino youth. Thus, our results demonstrate that White, African American, Hispanic/Latino, and Native American youth in rural areas have educational aspirations that, for the most part, are similar to each other (excepting the distinction between Native American and African American youth).

Results from analyses of between-group differences in parental educational aspirations also indicated that the parents of White, African American, Hispanic/Latino, and Native American students in rural areas had comparably high levels of educational aspirations for their children.

Moreover, there were no significant differences in the relation of parental educational aspirations to students' educational aspirations across race/ethnicity. That is, parental educational aspirations had a similar positive relation to the educational aspirations of White, African American, Hispanic/Latino, and Native American students in rural areas.

Together with our findings that rural students' educational aspirations are largely similar across different racial/ethnic groups, our results demonstrate that White, African American, Hispanic/Latino, and Native American high school youth, as well as their parents, in rural communities hold similar long-term educational aspirations. We suspect that even though African American, Hispanic/Latino, and Native American youth experience lower achievement and teacher educational expectations, they may have high educational aspirations because there may be few alternative routes to securing employment in their rural communities and, therefore, making a successful transition to adulthood. That is, perhaps the combination of factors, such as the geographic isolation and poverty that African American, Hispanic/Latino, and Native American youth in rural areas are more likely to experience, sustains ambitions for postsecondary education because without it they may have very limited employment prospects. Additionally, African American parents in high-poverty rural areas often want their children to leave to obtain postsecondary education and training but then return home to use their education to better the community's economy or serve as community leaders (Farmer et al., 2006; Petrin et al., 2011, 2014; Stack, 1996; Tieken, 2014). Although we are not aware of research along these lines with Hispanic/Latino and Native American youth in rural areas, Hispanic/Latino and Native American parents in rural communities may want their adolescents to follow a similar path.

School Characteristics and Experiences

Consistent with other national studies, our results indicate African American, Hispanic/Latino, and Native American students in rural areas attend more racially diverse schools than White students (Siegel-Hawley & Frankenberg, 2012). In addition, we found that African American, Hispanic/Latino, and Native American youth also more often attend rural schools characterized by high poverty rates. In other words, African American, Hispanic/Latino, and Native American youth in rural areas attend schools that are more often segregated by race/ethnicity as well as socioeconomic background. Therefore, African American, Hispanic/Latino, and Native American youth in rural schools may have less access to resources (e.g., counselors, job-shadowing programs) that could help them prepare for postsecondary education.

There were several differences in the school experiences and their relation to educational aspirations regarding the academic preparation of African American, Hispanic/Latino, and Native American youth in rural communities that are, in our view, particularly noteworthy. First, African American and Native American youth were more often retained than White and Hispanic/Latino youth. Our findings were, in part, commensurate with previous findings from Kao and Tienda (1998) that used nationally representative data and demonstrated that African American youth disproportionately experience grade retention. However, our findings differed from other results by Kao and Tienda (1998) that indicated Hispanic/Latino youth also significantly more often experience grade retention. Nonetheless, our findings revealed that grade retention was predictive of lower educational aspirations for Hispanic/Latino youth only.

Second, we also identified important racial/ethnic differences in rural students' academic achievement and program. Specifically, African American, Hispanic/Latino, and Native American youth had significantly lower achievement than White youth. Similar to grade retention, achievement was only predictive of educational aspirations for Hispanic/Latino youth. Additionally, Hispanic/Latino and Native American youth were significantly less often enrolled in a college preparation program than White and/or African American youth. Furthermore, involvement in a college preparation program was predictive of higher educational aspirations for African American and Hispanic/Latino youth, but it was even more predictive for Hispanic/Latino youth than for African American and Native American youth.

Third, we identified some salient differences in academic values and beliefs. Specifically, African American and Hispanic/Latino youth had higher school valuing, which was related to their educational aspirations, even more so for Hispanic/Latino than African American youth. African American youth had the highest ability beliefs (i.e., academic self-concept) whereas Hispanic/Latino youth had the lowest ability beliefs. Furthermore, academic self-concept had a comparable positive relation to the educational aspirations of all minority youth in rural areas. However, teachers' beliefs about participants' ability (i.e., teacher educational expectations) were lower for all minority youth in rural areas, even though teacher educational expectations had a similar positive relationship to educational aspirations across all students.

Implications

Our results demonstrate that across racial/ethnic subgroups, students and their parents in rural communities have similar educational aspirations. Broadly, school experiences were not only more predictive of educational aspirations than school characteristics, but they also appear to matter more than family and student characteristics and experiences as well. As a whole, these results suggest that efforts targeting school experiences may be a more effective route to promoting a successful transition for minority youth in rural communities than targeting school characteristics. That is, our findings suggest that rural school experiences could be a more important and directly related target for helping African American, Hispanic/Latino, and Native American youth reach their goals and the goals their parents hold for them. Toward that end, it may be important to address the following: maintain or increase school valuing for African American and Hispanic/Latino youth, increase the academic self-concept of Hispanic/Latino and Native American, maintain or increase the academic self-concept of African American youth, and improve teachers' educational expectations for minority youth in rural schools.

Unfortunately, though, our results also suggest that African American, Hispanic/Latino, and Native American youth in rural high schools are less likely to have several other school experiences that could help them attain their educational goals. Specifically, our findings indicate that African American and Native American youth in rural schools are more likely to experience grade retention, and that when Hispanic/Latino youth in rural schools experience grade retention, it may play more of a role in shaping their academic plans and trajectories. Coupled with the existing research indicating that grade retention predicts lower educational achievement (Hattie, 2009), our findings highlight that minority youth in rural schools disproportionately have this adverse experience and, for Hispanic/Latino youth, their plans and preparation for adulthood may be particularly affected by it. Our results further indicate that African American, Hispanic/Latino,

and Native American youth in rural schools are more likely to experience lower achievement and/or involvement in college preparation courses than their White counterparts. Moreover, when Hispanic/Latino youth in rural schools experience lower achievement and involvement in non-college preparation programs, these factors may also play more of a role in shaping their academic plans and trajectories.

Thus, without strong academic preparation, changing the academic-related beliefs of rural youth (e.g., school valuing, academic self-concept) or their teachers (e.g., teacher educational expectations) alone may not be sufficient for increasing educational attainment and reaching their educational aspirations. Consequently, rural educators and policymakers should take efforts to prevent grade retention, consider alternatives to this practice, and work to improve achievement among African American, Hispanic/Latino, and Native American youth in rural schools. On this point, results from the synthesis of over 800 meta-analyses by Hattie (2009) demonstrate that there are numerous factors tied to teachers (e.g., teacher–student relations, teacher clarity, professional development), instruction (e.g., reciprocal and problem-solving teaching, cooperative learning, mastery learning), and curricula (e.g., vocabulary and phonics programs, creativity programs) that have a stronger relation to and potential impact on educational achievement than poverty and family background.

Further, rural educators and policymakers should work to identify the reasons for differential involvement in college preparation programs and, if appropriate, maintain or increase access for African American, Hispanic/Latino, and Native American youth who want to pursue postsecondary education. Research suggests that smaller schools generally offer fewer advanced courses in all subjects (Iatarola, Long, & Conger, 2011; Monk & Haller, 1993). In particular, there is a pronounced inequity in advanced math course offerings for rural students, which is larger than inequities in science or language arts offerings (Anderson & Chang 2011; Barker 1985; Haller, Monk, & Tien, 1993; Planty, Bozick, & Ingels, 2006). This inequity is significant because advanced course-taking in mathematics is more predictive of academic achievement, college enrollment, and adulthood earnings than in other subjects (Adelman, 2006; Joensen & Nielsen, 2009; Schneider, 2003). Furthermore, we have found that advanced mathematics course-taking is causally related to educational attainment (Byun et al., 2015), and it also explains the differences in 12th-grade math achievement and 4-year college enrollment between rural and urban students (Irvin et al., 2014). Although the reasons for rural students' inequity in the opportunity to learn advanced mathematics are not clear at this time (Iatarola et al., 2011; Irvin et al., 2014) and should be clarified with research, as policymakers and practitioners maintain or increase access to advanced courses for rural youth, particular attention may need to be given to mathematics coursework.

Limitations and Future Research Directions

Although the current study provides several important insights into the preparation of African American, Hispanic/Latino, and Native American youth in rural schools for the transition to adulthood, there are limitations that should be acknowledged. Methodologically, the use of a cross-sectional design means causality and directionality cannot be clearly determined. Therefore, future research should employ longitudinal analyses and strong quasi-experimental or experimental designs to more definitively identify causal relationships. In addition, longitudinal research should

examine the degree to which African American, Hispanic/Latino, and Native American youth in rural schools achieve the educational aspirations they and their parents have. On the one hand, most measures were student self-report, which is appropriate, given the focus on students' experiences in their schools and other settings. However, student self-reports may also be affected by social desirability. Consequently, future research may be strengthened by employing measures from multiple sources (e.g., parents, peers) and methods (e.g., observations).

Our findings regarding some school characteristics may seem to contradict other results, indicating that, for example, school poverty and racial/ethnic composition or segregation are predictive of academic outcomes. However, this is not necessarily the case. That is, previous research demonstrating a relationship between school poverty and racial/ethnic composition to academic outcomes has largely not included measures of school experiences. Therefore, it is unclear if school characteristics should be expected to predict academic outcomes such as educational aspirations beyond school experiences. Although we found that African American, Hispanic/Latino, and Native American youth more often attend rural schools segregated by race/ethnicity and socioeconomic status and the impact of segregated school settings is well documented (Orfield, Kucsera, & Siegel-Hawley, 2012; Siegel-Hawley & Frankenberg, 2012), it may also be that school experiences fully mediate and explain the relation between school characteristics and academic outcomes. However, we did not test for mediation in our study—a limitation that further research should explore.

To speculate, attending rural schools with higher levels of student poverty and racial/ethnic segregation may relate to lower involvement in a college-preparation program because high poverty and more segregated rural schools may have fewer resources to provide a comprehensive curriculum and advanced courses. In turn, students in high poverty and more segregated rural schools may have lower educational aspirations because inequitable opportunities to learn advanced content may hamper how well prepared they feel to reach educational goals, as well as their own and their teachers' beliefs in their ability to succeed academically (i.e., low academic self-concept and teacher educational expectations). If school experiences do mediate the relation of school characteristics to educational aspirations in a process along these lines, then school characteristics should not be predictive of educational aspirations while accounting for school experiences. Thus, future research should investigate whether school experiences mediate the relation of school characteristics on educational aspirations or other academic outcomes. If so, such results would indicate that rural school characteristics are involved in the educational process, just indirectly via school experiences, and, as such, these experiences may also need to be addressed. Likewise, parental educational aspirations may mediate the relationship of parental education and economic hardship to students' educational aspirations. Thus, future research should be undertaken to illuminate these underlying mechanisms and mediated processes.

CONCLUSION

In this study, we found that rural students and their parents across racial/ethnic subgroups have similar educational aspirations. Our results also revealed that there are important racial/ethnic differences in school experiences. Because African American, Hispanic/Latino, and Native American youth and their families in rural areas encounter some of the most serious poverty in our country and have postsecondary educational aspirations similar to their White counterparts, rural

schools should work to better prepare African American, Hispanic/Latino, and Native American youth and provide school experiences that could support these aspirations and facilitate their transition to adulthood. As education is the driving force of rural community development (Schafft & Harmon, 2010), these efforts may improve not only the health, economic, and social conditions of African American, Hispanic/Latino, and Native American youth in rural areas, but their communities as well.

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APPENDIX

Percentage of Missing Data for Independent Variables

	% imputed
<i>Family characteristics and experiences</i>	
Parental educational aspirations	3.6
Parental education	10.6
Two-parent family	1.3
Number of siblings	1.4
Economic hardship	6.2
<i>Student characteristics and experiences</i>	
Female	0.0
Grade level	0.0
Perception local economic opportunity	11.5
Residential aspirations	1.6
<i>School characteristics and experiences</i>	
%students receiving free lunch	11.0
%African American students	4.7
%Hispanic students	4.7
%Native American students	4.7
School location	0.0
College proximity	0.5
College prep program	5.0
Retention	8.6
Achievement	3.8
School valuing	4.3
Academic self-concept	7.8
Teacher's educational expectations	11.5